# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/887,831 | 06/22/2001 | Robert D. Battin | CE08914R | 7869 |

22917     7590     -     12/23/2004

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| EXAMINER |
|---|
| BHATIA, AJAY M |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2145 | |

DATE MAILED: 12/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | Application N . | | Applicant(s) | |
|---|---|---|---|---|---|
| **Office Action Summary** | | 09/887,831 | | BATTIN ET AL. | |
| | | Examiner | | Art Unit | |
| | | Ajay M Bhatia | | 2145 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)☒ Responsive to communication(s) filed on *22 June 2001*.

2a)☐ This action is **FINAL**.      2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)☒ Claim(s) *1-60* is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-60* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

## Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some * c)☐ None of:

       1.☐ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/23/2004*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail. Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

1.      Claims 1-60 are pending.

2.      Claims 1-60 are rejected.


### *Claim Objections*

3.      Claim 5 is objected to because of the following informalities: misspellings.

Appropriate correction is required.

Also please check all claims and entire specifications for additional typos or

misspelling. Appropriate corrections are required.


### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4.      Claims 1-7, 9-15, 17-31, 33-40, 42-43, 46-51, 54-55, 58, and 60 are rejected

under 35 U.S.C. 102(b) as being anticipated by Gleeson et al. (U.S. Patent 5,627,829

referred to as Gleeson).


5.      For claim 1, Gleeson teaches, a method for transmitting data by a first

communication device, the method

comprising steps of:

receiving, from a second communication device, a message that comprises socket

information and that requests an establishment of a connection based on the socket

information, and wherein the socket information comprises destination information; (see

Gleeson, Col. 15 line 62 to Col. 16 line 23)


translating the message requesting an establishment of a virtual connection to a

connection request; (see Gleeson, Col. 15 line 62 to Col. 16 line 23)


routing the connection request to the destination identified by the socket information,

wherein a virtual connection is established based on the connection request; (see

Gleeson, Col. 17 line 27-47 and Figure 15)


receiving, from the second communication device, a data packet that comprises a

payload and does not include at least a portion of the socket information;

generating a header;

adding the header to the payload to produce a modified data packet; and

routing the modified data packet to the identified destination.

(see Gleeson, Col. 15 line 62 to Col. 16 line 23, Col. 16 lines 46-61 and Col. 17 line 65

to Col. 17 line 10)

6.      For claim 2, Gleeson teaches, the method of claim 1, wherein the socket

information comprises a destination address and a destination port. (see Gleeson, Col.

15 line 62 to Col. 16 line 23)


7.      For claim 3, Gleeson teaches, the method of claim 2, wherein the socket

information further comprises a protocol designation. (see Gleeson, Col. 15 line 62 to

Col. 16 line 23)


8.      For claim 4, Gleeson teaches, the method of claim 2, wherein the socket

information further comprises a source address and a source port. (see Gleeson, Col.

15 line 62 to Col. 16 line 23)


9.      For claim 5, Gleeson teaches, the method of claim 1, wherein the received data

packet does not include at least a portion of the socket information, anted wherein the

step of generating a header comprises a step of generating a header that comprises

missing socket information. (see Gleeson, Col. 13 lines 37-49)


10.     For claim 6, Gleeson teaches, the method of claim 1, wherein the step of adding

a header that comprises missing socket information comprises a step of adding a

header that corresponds to at least a portion of a TCP/IP (Transmission Control

Protocol/Internet Protocol) suite. (see Gleeson, Col. 13 lines 37-49, Col. 7-24 and Col.

12 26-35)

11.    For claim 7, Gleeson teaches, the method of claim 1, wherein the header is

based on the socket information included in the message. (see Gleeson, Col. 13 lines

37-49, Col. 7-24)


12.    For claim 9, Gleeson teaches, the method of claim 1, wherein the header is

based on configuration information. (see Gleeson, Col. 13 lines 37-49, Col. 7-24)


13.    For claim 10, Gleeson teaches, the method of claim 1, wherein the step of

establishing a virtual connection comprises steps of:


receiving an acknowledgement of the connection request routed to the identified

destination;


receiving a connection request from the identified destination;  and


acknowledging the connection request received from the identified destination.

(see Gleeson, Col. 15 line 62 to Col. 16 line 23, Col. 16 lines 46-61 and Col. 17 line 65

to Col. 17 line 10)

14.    For claim 11, Gleeson teaches, the method of claim 1, wherein the method further comprises a step of tearing down the virtual connection. (see Gleeson, Col. 15 line 62 to Col. 16 line 23)

15.    For claim 12, Gleeson teaches, the method of claim 11, wherein the step of tearing down the virtual connection comprises steps of:

routing a finish signal to the identified destination;

receiving an acknowledgement of the finish signal routed to the identified destination; receiving a finish signal from the identified destination;  and

acknowledging the finish signal received from the identified destination.
(see Gleeson, Col. 22 lines 57-67 and inherent in features of X.25)

16.    For claim 13, Gleeson teaches, the method of claim 1, wherein the method further comprises steps of:

receiving a data packet intended for the second communication device, which data packet comprises a payload intended for the second communication device and further comprises a header having socket information;

reducing a size of the header to produce a reduced-size data packet that comprises the

payload; and


routing the reduced-size data packet to the second communication device.

(see Gleeson, Col. 6 lines 12-29)


17.    For claim 14, Gleeson teaches, the method of claim 13, wherein the step of

reducing a size of the header comprises a step of terminating at least a portion of the

socket information included in the data packet to produce a reduced-size data packet

that comprises the payload. (see Gleeson, Col. 6 lines 12-29)


18.    For claim 15, Gleeson teaches, the method of claim 14, wherein the reduced-size

data packet is routed to the second communication device based on the socket

information included in the message. (see Gleeson, Col. 6 lines 12-29)


19.    For claim 17, Gleeson teaches, the method of claim 14, wherein the reduced-size

data packet is routed to the second communication device based on configuration

information. (see Gleeson, Col. 6 lines 12-29)


20.    For claim 18, Gleeson teaches, the method of claim 1, wherein the message

requesting an establishment of a virtual connection comprises an interprocess

communication (IPC) message, and wherein the step of translating the message

requesting an establishment of a virtual connection to a connection request comprises a

step of translating the IPC message to a TCP/IP (Transmission Control Protocol/Internet

Protocol) synchronize (SYN) datagram. (see Gleeson, Col. 6 lines 12-29 and Col. 9

lines 1-22)

21.    For claim 19, Gleeson teaches, a method for transmitting data by a first

communication device, the method comprising steps of:

producing a message requesting an establishment of a connection with a destination

identified by socket information, wherein the socket information comprises destination

information;  (see Gleeson, Col. 15 line 62 to Col. 16 line 23)

routing the message to a second communication device;  (see Gleeson, Col. 17 line 27-

47 and Figure 15)

producing a reduced-size header data packet that comprises a payload and does not

include at least a portion of the socket information;  (see Gleeson, Col. 6 lines 12-29)

routing the reduced-size header data packet to the second communication device;  and

(see Gleeson, Col. 6 lines 12-29)

wherein the second communication device adds a header to the reduced-size data

packet that includes missing socket information. (see Gleeson, Col. 6 lines 12-29)

22.     For claim 20, Gleeson teaches, the method of claim 19, wherein the first

communication device includes an application, wherein the reduced-size header data

packet comprises a first reduced-size header data packet having a first payload, and

wherein the method further comprises steps of:

receiving a second reduced-size data packet that that comprises a second payload and

does not include at least a portion of the socket information; and

routing the second payload to the application.
(see Gleeson, Col. 6 lines 12-29)

23.     For claim 21, Gleeson teaches, a method for transmitting data comprising steps

of:

generating, by a first communication device, a message requesting an establishment of

a connection with a destination identified by socket information, wherein the socket

information comprises destination information; (see Gleeson, Col. 15 line 62 to Col. 16

line 23)

routing, by the first communication device to a second communication device, the

message; (see Gleeson, Col. 16 line 24-40)

receiving, by the second communication device, the message; (see Gleeson, Col. 15

line 62 to Col. 16 line 23, Col. 16 lines 46-61 and Col. 17 line 65 to Col. 17 line 10)

translating, by the second communication device, the message requesting an

establishment of a virtual connection to a connection request; (see Gleeson, Col. 15

line 62 to Col. 16 line 23)

routing, by the second communication device, the connection request to the destination

identified by the socket information, wherein a virtual connection is established based

on the connection request; (see Gleeson, Col. 17 lines 27-47 and Figure 15)

generating, by the first communication device, a first reduced-size header data packet

that comprises a first payload and does not include at least a portion of the socket

information; (see Gleeson, Col. 15 line 62 to Col. 16 line 23, Col. 17 lines 27-47 and

Figure 15)

routing, by the first communication device to the second communication device, the first

reduced-size header data packet; (see Gleeson, Col. 6 lines 12-28, Col. 15 line 62 to

Col. 16 line 23, Col. 17 lines 27-47 and Figure 15)

receiving, by the second communication device, the first reduced-size header data

packet; (see Gleeson, Col. 6 lines 12-28, Col. 15 line 62 to Col. 16 line 23, Col. 17 lines

27-47 and Figure 15)

generating, by the second communication device, a header that includes the missing

socket information; (see Gleeson, Col. 6 lines 12-28, Col. 15 line 62 to Col. 16 line 23,

Col. 17 lines 27-47 and Figure 15)

adding, by the second communication device, the header that includes the missing

socket information to the payload to produce a modified data packet; and (see

Gleeson, Col. 17 line 27-47 and Figure 15)

routing, by the second communication device, the modified data packet to the identified

destination. (see Gleeson, Col. 17 line 27-47 and Figure 15)

24.    For claim 22, Gleeson teaches, the method of claim 21, wherein the method

further comprises steps of:

receiving, by the second communication device, a data packet intended for the first

communication device, which data packet comprises a second payload intended for the

first communication device and further comprises a header having socket information

and;

reducing, by the second communication device, a size of the header to produce a

second reduced-size data packet that comprises the second payload;  and

routing, by the second communication device, the second reduced-size data packet to

the first communication device.

(see Gleeson, Col. 6 lines 12-29)

25.     For claim 23, Gleeson teaches, the method of claim 22, wherein the step of

reducing a size of the header comprises a step of terminating, by the second

communication device, at least a portion of the socket information included in the data

packet to produce a second reduced-size data packet that comprises the second

payload. (see Gleeson, Col. 22 lines 57-67 and inherent in features of X.25)

26.     For claim 24, Gleeson teaches, the method of claim 22, wherein the first

communication device comprises a processor executing an application, and wherein the

method further comprises steps of:

receiving, by the first communication device, the second reduced-size data packet that

that comprises the second payload and does not include at least a portion of the socket

information; and

routing the second payload to the application.

(see Gleeson, Col. 17 lines 27-47)

27.     Claims 25-31, 33-40, 42-43, and 46-51 are list all the same elements of claims 1-

7, 9-15, and 17-24, but in machine form rather than method form.  Therefore, the

supporting rationale of the rejection to claims 1-7, 9-15, and 17-24 applies equally as

well as to claims 25-31, 33-40, 42-43, and 46-51.

28.     For claim 55, Gleeson teaches, a communication system comprising:

a first communication device comprising a first socket abstraction layer capable of

invoking function calls and sending interprocess communication (IPC) messages;

a second communication device comprising a second socket abstraction layer capable

of generating headers that are not generated by the first socket abstraction layer;  and

(see Gleeson, Col. 9 lines 1-22)

wherein the first socket abstraction layer is capable of communicating with the second

socket abstraction layer via IPC messages and wherein the first communication device

conveys data packets to the second communication device minus headers that are

appended to the data packet by the second communication device. (see Gleeson, Col.

17 lines 27-47)

29.     For claim 58, Gleeson teaches, the communication system of claim 55, wherein

the first communication device further comprises a first network stack that interfaces

with the first socket abstraction layer, wherein the second communication device further

comprises a second network stack that interfaces with the second socket abstraction

layer, and wherein each of the first network stack and the second network stack

comprises a Radio Link Protocol (RLP) layer. (see Gleeson, Col. 17 lines 27-47)

30.     For claim 60, Gleeson teaches, a communication system comprising: a first

communication device comprising a first socket abstraction layer, wherein the first

communication device generates data packet that comprises a payload and a header

and routes the data packet to the second communication device;  a second

communication device comprising a second socket abstraction layer, wherein the

second communication device receives the data packet, terminates at least a portion of

the header that is generated by the first communication device to produce a reduced-

size data packet, and routes the reduced-size data packet to a third communication

device;  a third communication device comprising a third socket abstraction layer,

wherein the third communication device receives the reduced-size data packet and

generates at least a portion of the at least a portion of the header that is terminated by

the second communication device; and wherein the second socket abstraction layer is

capable of communicating with the third socket abstraction layer via interprocess

communication (IPC) messages. (see Gleeson, Col. 6 lines 12-28, Col. 9 lines 1-22,

Col. 15 line 62 to Col. 16 line 23, Col. 16 line 24-40, Col. 16 lines 46-61, Col. 17 lines

27-47, Col. 17 line 65 to Col. 17 line 10 and Figure 15)

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

31.    Claims 8, 16, 32, 41, 44, 45, 52, 53, 56, 57, and 59 are rejected under 35 U.S.C.

103(a) as being unpatentable over Gleeson in view of Kalliokulju (Patent Application

Publication 2002/0091860 referred to as Kalliokulju).


See additional citations for dependent claims in rejections above.


32.    For claim 8, Gleeson teaches, the method of claim 1, wherein the header is

based on packet data (see Gleeson, Col. 13 lines 37-49, Col. 7-24 and Col. 12 26-35)

Gleeson fails to teach, convergence protocol (PDCP) context.

Kalliokulju teaches, convergence protocol (PDCP) context. (see Kalliokulju, paragraph 55)

It would be obvious of one of ordinary skill in the art at the time of the invention to combine the system of Gleeson with the method of Kalliokulju because Kalliokulju provides for the specific need required to create a real-time data transfer system improving upon the system of Gleeson, in that it allows for video and other real time applications more readily. (see Kalliokulju, paragraph 04)

33.     For claim 16, Gleeson teaches, the method of claim 14, wherein the reduced-size data packet is routed to the second communication device based on (see Gleeson, Col. 13 lines 37-49, Col. 7-24 and Col. 12 26-35)

Gleeson fails to teach, packet data convergence protocol (PDCP) context.

Kalliokulju teaches, packet data convergence protocol (PDCP) context. (see Kalliokulju, paragraph 55)

See above for motivation to combine references.

34.     Claims 32, 41, 44, 45, 52 and 53 are list all the same elements of claims 8 and 16, but in machine form rather than method form. Therefore, the supporting rationale of the rejection to claims 8 and 16 applies equally as well as to claims 32, 41, 44, 45, 52 and 53.

35.     For claim 56, Gleeson teaches, the communication system of claim 55, wherein the first communication device further comprises a first network stack that interfaces with the first socket abstraction layer, wherein the second communication device further comprises a second network stack that interfaces with the second socket abstraction layer, and wherein each of the first network stack and the second network stack comprises a (see Gleeson, Col. 17 lines 27-47, Col. 13 lines 37-49, Col. 7-24 and Col. 12 26-35)

Gleeson fails to teach, packet data convergence protocol (PDCP) context.

Kalliokulju teaches, packet data convergence protocol (PDCP) layer. (see Kalliokulju, paragraph 55)

See above for motivation to combine references.

36.    For claim 57, Gleeson fails to teach, the communication system of claim 56,

wherein each of the first network stack and the second network stack further comprises

a radio link control (RLC) layer.

Kalliokulju teaches, the communication system of claim 56, wherein each of the first

network stack and the second network stack further comprises a radio link control (RLC)

layer. (see Kalliokulju, paragraph 54)

See above for motivation to combine references.

37.    For claim 59, Gleeson teaches, the communication system of claim 55, wherein

the first communication device employs a first set of protocols, wherein the second

communication device employs a second set of protocols,

wherein the third communication device is capable of receiving a first message from the

first communication device, processing the first message based on the second set of

protocols, and routing the processed first message to the second communication

device, and wherein the third communication device is further capable of receiving a

second message from the second communication device, processing the second

message based on the first set of protocols, and routing the processed second

message to the first communication device. (see Gleeson, Col. 17 lines 27-47)

Gleeson fails to teach, wherein the communication system further comprises a third

communication device comprising a relay

Kalliokulju teaches, wherein the communication system further comprises a third

communication device comprising a relay (see Kalliokulju, paragraph 98)


See above for motivation to combine references.


## Conclusion


38.    The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Suumaki et al. (Patent Application Publication 2001/0007137)

Teaches of a system the uses PDCP and RLC.

39.    The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Barany et al. (Patent Application Publication 2002/0064164)

teaches discloses a wireless communication system.

40.    The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Ahmed et al. (Patent 6160804) a wireless communication system

that makes use of RLP.

41.    The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Sevanto et al. (Patent 6658011) discusses the use of a wireless

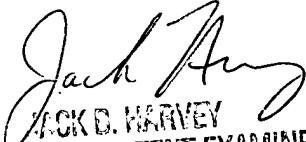protocol in a radio based communication system.

42.    The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Barany  (Patent Application Publication 2003/0189900) discusses

the use of multiple ways of reducing packet size.

43.    The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Suumaki et al. (Patent 6615269) discusses the use of socket and

creating connections.


Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Ajay M Bhatia whose telephone number is (571)-272-

3906. The examiner can normally be reached on M-F 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Jack Harvey can be reached on (571)-272-3896. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

JACK D. HARVEY
SUPERVISORY PATENT EXAMINER

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